IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s): Ezio Valdevit	§	Art Unit: 2471
	§	
	§	Confirmation No.: 1886
	§	
Serial No.: 10/699,588	§	Examiner: Mohammad S. Adhami
	§	
Filed: October 31, 2003	§	Docket No.: 112-0124US
	§	
For: Network Path Tracing Method	§	Customer No.: 85197
	§	

APPEAL BRIEF

Via USPTO EFS
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450
Mail Stop: Appeal Briefs – Patents

Appellant hereby submits this Appeal Brief in connection with the above-identified application. A Notice of Appeal was filed on July 1, 2010.

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I. REAL PARTY IN INTEREST

Brocade Communications Systems, Inc. is the real party in interest

II. RELATED APPEALS AND INTERFERENCES

Related application Serial No. 10/699,603 was appealed and an Appeal Brief filed, but prosecution was reopened in response to the Appeal Brief.

III. STATUS OF CLAIMS

Originally filed claims:	1-82.
Added claims:	83-130.
Claim cancellations:	10, 19-54, 64 and 73-82.
Presently pending claims:	1-9, 11-18, 55-63, 65-72 and 83-130.
Presently appealed claims:	1-9, 11-18, 55-63, 65-72 and 83-130.
Presently allowed claims:	None.
Presently objected claims:	None.

IV. STATUS OF AMENDMENTS

No amendments have been made to the subject application subsequent to the Final Office Action of March 30, 2010 (hereinafter "Final Office Action").

V. SUMMARY OF CLAIMED SUBJECT MATTER

This section provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal. Each element of the claims is identified with a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Embodiments according to the presently claimed invention provide for systems and methods for gathering troubleshooting information through one or more network. *See* Specification of the subject Application as published (hereinafter "Specification"), Abstract. In at least one embodiment, a switch port is configured to receive a frame that has information added by another switch. *Id.* As the frame traverses the network, control logic in the switch adds additional information into the frame from the current switch. *Id.*

In accordance with the invention of independent claim 1, for example, what is claimed is:

A Fibre Channel switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

a plurality of ports configured to receive and transmit a frame **(Specification, ¶ [0026], l. 8; and FIG. 2A, ports 22-28)**; and

a fabric manager coupled to the plurality of ports **(Specification, ¶ [0026], ll. 9-10; and FIG. 2A, fabric manager 38)** to obtain the received frame **(Specification, ¶ [0053], ll. 8-11)** and to provide a frame to be transmitted **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**, the fabric manager configured to add information to the frame **(Specification, ¶ [0042], ll. 1-3)**; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and to provide the frame for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**.

In accordance with the invention of independent claim 55, for example, what is claimed is:

A method performed by a Fibre Channel switch **(Specification, ¶ [0026], ll. 4-6; FIG. 2A, switch 20; ¶ [0053], ll. 1-2; and FIG. 6)**, the method comprising:

receiving a frame **(Specification, ¶ [0053], ll. 8-11)**;

determining measured transmit and receive rates of the port receiving the frame from the amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

providing the frame to a port for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

In accordance with the invention of independent claim 83, for example, what is claimed is:

A switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

a fabric manager **(Specification, ¶ [0026], ll. 9-10; and FIG. 2A, fabric manager 38)** configured to add information to a frame **(Specification, ¶ [0042], ll. 1-3)**; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of a port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and to provide the frame for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**.

In accordance with the invention of independent claim 99, for example, what is claimed is:

A method performed by a switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20; ¶ [0053], ll. 1-2; and FIG. 6)**, the method comprising:

determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

providing the frame to a port for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

In accordance with the invention of independent claim 115, for example, what is claimed is:

A switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

means for determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

means for adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

means for providing the frame to a port for transmission**(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- Whether claims 1-9, 11, 12,16-18, 55-63, 65, 66, 70-72, 83-93, 97-109, 113-125, 129 and 130 are unpatentable under 35 U.S.C. § 103(a) over Cometto (U.S. Pat. No. 7,206,288) in view of Soumiya (U.S. Pat. No. 6,671,257).
- Whether claims 13, 67, 94, 110 and 126 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view of Soumiya as applied to claims 12, 30, 48 and 66, and further in view of Wong (U.S. Pat. No. 6,363,077).
- Whether claims 14, 68, 95, 111 and 127 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view Soumiya as applied to claims 12, 30, 48 and 66, and further in view of Fredericks (U.S. Pat. No. 6,347,334).
- Whether claims 15, 69, 96, 112 and 128 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view Soumiya as applied to claims 12, 30, 48 and 66, and further in view of Kanetake (U.S. Pat. App. Pub. No. 2003/0137978).

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. After a concise discussion of cited art, each of these arguments is separately argued below and presented with separate headings and subheading as required by 37 CFR § 41.37(c)(l)(vii).

A. The Rejections Under 35 U.S.C. § 103(a) of Claims 1-9, 11, 12, 16-18, 55-63, 65, 66, 70-72, 83-93, 97-109, 113-125, 129 and 130 as Unpatentable Over Cometto (U.S. Pat. No. 7,206,288) in View of Soumiya (U.S. Pat. No. 6,671,257)

1. The Rejections of Independent Claims 1, 55, 83, 99 and 115

In rejecting independent claim 1 as allegedly obvious over Cometto in view of Soumiya, it was stated in the Final Office Action that,

> Soumiya discloses *adding measured transmit and receive rates of the port receiving the frame to the frame* (Fig.26 ref. 8~9 is a rate field and Col.27 lines 52-67 calculates the ER based on the result of the measurement and Col.37 line 44- Col.38 line 15 counting the number of arrived cells during an observation time and using that measurement in calculating the ER).
>
> Soumiya further discloses *wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period* (Col.37 line 44- Col.38 line 15 counting the number of arrived cells during an observation time and using that measurement in calculating the ER – where counting the number of arrived cells is measuring an amount of data and where the observation time is a defined time period).

Final Office Action, ¶ 1, p. 4.

and further that,

> In the remarks, Applicant contends in Soumiya, the explicit rate is a calculated rate that is not determined from an amount of data transmitted and received during a defined time period.
>
> The Examiner respectfully disagrees. Soumiya does disclose the measured rates are determined from an amount of data transmitted and received during a defined time period (Fig.26 ref. 8~9 is a rate field and Col.27 lines 52-67 calculates the ER based on the result of the measurement and Col.37 line 44-Col.38 line 15 counting the number of arrived cells during an observation time and using that measurement in calculating the ER). The amount of cells received (amount of data) in an observation period (defined time period) is measured and the rate is calculated based on this measurement. Therefore the rate in Soumiya is a measured rate determined from an amount of data transmitted during a defined time period.

Final Office Action, ¶ 5, p. 11.

Appellant respectfully traverses this characterization of the cited art, noting that the explicit rate taught by Soumiya is a single calculated bandwidth limit that is added to a resource management (RM) cell and used to set the transmission rate of the transmitting terminal that originated the RM cell. The explicit rate taught by Soumiya is not the measured transmit and receive rates of the port that received the frame to which information is added, as required by independent claim 1.

Soumiya is directed generally to preventing network congestion based on feedback control in an Available Bit Rate (ABR) communication service. *See* Soumiya, col. 1, ll. 10-12. In such a service, an RM cell is periodically sent out by a transmitting terminal to a receiving terminal, and then back to the transmitting terminal. *See* Soumiya, col. 1, ll. 29-35. Switches through which an RM cell passes write band and congestion information into the RM cell. *See* Soumiya, col. 2, ll. 8-12. This information is used by a transmitting terminal to recalculate the allowed cell rate (ACR) and to limit the transmission rate of the transmitting terminal at or below

the allowed cell rate. *See* Soumiya, col. 2, ll. 12-16. The allowed cell rate is increased by the transmitting terminal in the absence of congestion (i.e., when the congestion indicator (CI) bit of a received RM cell is set to "0"), and decreased when congestion is detected (i.e., when the CI bit is set to "1"). *See* Soumiya, col. 2, ll. 44-50. The RM cell includes an explicit rate (ER) field, which is written by a network switch based at least in part upon the congestion state of the switch. *See* Soumiya, col. 3, ll. 33-35. The lower of the allowed cell rate and the explicit rate is used to set the transmission rate when congestion is detected. *See* Soumiya, col. 2, ll. 50-54.

The explicit rate is the maximum rate at which a transmitting terminal is allowed to perform a transmission. *See* Soumiya, col. 3, ll. 35-37 and 41-44. Soumiya teaches a rate calculating unit that calculates the explicit rate:

> A rate calculating unit **104** (rate calculating unit **206**) is arranged for a low-speed transmission channel whose transmission rate is lower than that of the transmission channel of the switching unit **101** in the cell switch, such as a demultiplexer **108** (demultiplexer **205**). It is intended to calculate an explicit rate (allowed transmission rate Ba(n)) for designating a transmission rate for the transmitting terminal **109**. More specifically, the rate calculating unit **104** counts the number of active virtual connections in which a cell transmitted on the low-speed transmission channel, and whose transmission rate may be changed at the transmitting terminal **109**, for each output channel (each subscriber line), divides the transmission rate set for each output channel by the number of active virtual connections for each output channel, and calculates an explicit rate based on the result of the division.
>
> Soumiya, col. 25, ll. 23-38; *see also* col. 29, ll. 46-55 *and* col. 30, ll. 24-34.

Thus, the explicit rate taught by Soumiya is a configuration parameter representing an equal allocation of the available bandwidth between virtual connections on a communication channel. This bandwidth allocation determines the allowed transmission rate Ba(n) configured for each connection, i.e., the configured bandwidth of each output channel connection of a transmitting terminal. This initial calculation is based only on the number of active connections and the total

available bandwidth of the channel. The resulting explicit rate may be used to dynamically configure the maximum allowed virtual connection transmission rates.

Appellant traverses the Final Office Action's allegation that the explicit rate taught by Soumiya is based upon a measured count of received cells during an observation period, noting that the explicit rate is not numerically derived in any way from the cited cell count. Instead, the cell count merely provides a means for defining an observation period and for providing a basis for calculating a ratio of cells indicating the presence of congestion during said observation period. More specifically, switches through which a user data cell passes set the "explicit forward congestion indication" (EFCI) bit of the user data cell if the switch is in a congested state:

> A switch in the EFCI mode sets the EFCI bit in a user data cell passing through the ATM switch in a congested state.
> Soumiya, col. 3, ll. 26-27.

A rate changing unit measures the setting ratio of the EFCI bit:

> The rate changing unit **207** measures the setting ratio of the EFCI bit for a user data cell passing along the backward channel, calculates the explicit rate ER based on the result of the measurement and the allowed transmission rate Ba(n) calculated by a rate calculating unit **206**, which will be described later, and writes this rate to an RM cell passing along the backward channel. With such a configuration, an occurrence of congestion in the switching unit **201** can be suppressed.
> Soumiya, col. 27, ll. 58-67

The explicit rate is thus based upon the result of the setting ratio measurement, i.e., the ratio of cells indicating congestion to total cells for the observation period. This ratio is a ratio of two rates (# of cells with EFCI bit set for observation period / cell count for observation period) and is thus a unitless measurement. Further, the setting ratio itself is not factored into the actual numerical calculation of the explicit rate. Instead, the setting ratio is compared by the switch to a threshold level to determine if the level of congestion is such that the explicit rate needs to be adjusted, and if necessary the explicit rate field of the RM cell is modified:

> A rate changing unit **105** is arranged in a low-speed transmission channel identical to or different from the low-speed channel, for example, in a downward channel directing from the demultiplexer **108** to a subscriber line processing device **106** (subscriber line processing device **203**). It is intended to detect a setting ratio of congestion indication information for a user data cell transmitted on the low-speed transmission channel, change the explicit rate ER calculated by the rate calculating unit **104** based on the setting ratio, and assign the changed explicit rate ER to a resource management cell (RM cell) which is transmitted on the low-speed transmission channel and fed back to the transmitted terminal **109**.

Soumiya, col. 25, ll. 39-51.

> The ER changing unit **604** makes a comparison between the degree of congestion C(n) in the current observation period, which is calculated based on the above described equation, and a predetermined threshold value. It then calculates a divisor value for calculating the explicit rate ER from the allowed transmission rate Ba(n), which is notified by an RM cell from the above described rate calculating unit **206**, based on the result of the comparison.
>
> The ER writing unit **605** calculates the explicit rate ER by dividing the allowed transmission rate Ba(n) assigned to the ER field of the RM cell by the divisor value notified from the ER changing unit **604**, when the RM cell is transferred from the demultiplexer **205**. It then assigns the calculated explicit rate ER to the ER field of that RM cell, and transmits the RM cell to the subscriber line processing device **203**.

Soumiya, col. 31, l. 63 through col. 32, l. 10.

Thus the setting ratio determines whether a scaling factor is applied to the previously calculated explicit rate. The resulting explicit rate in the RM cell received by the transmitting terminal, which may have been scaled by the ER changing unit, is used to update the allowed cell rate:

> In response to such a process performed on the ATM switch side, the subscriber terminal **202** on a transmitting side (refer to FIG. **21**) extracts the explicit rate ER from the RM cell, recalculates the allowed cell rate ACR based on the explicit rate ER, and makes a communication at a rate equal to or lower than the ACR. In this way, an occurrence of congestion can be prevented in the switching unit **201** and the demultiplexer **205**.
> Soumiya, col. 32, ll. 11-18.

Thus, Soumiya teaches determining an allowed bandwidth, the explicit rate, for the virtual connections active on a transmitting terminal's output channel based on the number of active connections and on the degree of congestion detected in the network through which ATM cells are transmitted. The degree of congestion is factored into the allowed bandwidth by scaling the bandwidth settings of the connections up or down if the ratio of cells reporting congestion for a given observation period is respectively below or above a predetermined threshold value. Nowhere does Soumiya teach or even suggest that the explicit rate represents both the transmit rate and the receive rate of the port that received the frame to which the two rates are added, said rates being determined from an amount of data respectively transmitted and received by the port, as required by independent claim 1. Further, both the rate calculating unit and the rate changing unit taught by Soumiya are shown as components that are external to the switches. *See* Soumiya, FIG. 20. By contrast, it is the claimed switch itself that adds the information to the frame of independent claim 1.

For at least these reasons, Appellant submits that none of the cited references, either alone or together, teaches or suggests all of the limitations of independent claim 1. Further, because independent claims 55, 83, 99 and 115 include limitation similar to claim 1 and were rejected on the same grounds,[1] Appellant submits that none of the limitations of these claims are taught by the cited references. The Examiner therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of independent claims 1, 55, 83, 99 and 115.

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[1] *See* Final Office Action, ¶ 1, p. 2.

2. The Rejections of Dependent Claims 2-9, 11, 12, 16-18, 56-63, 65, 66, 70-72, 84-93, 97, 98, 100-109, 113, 114, 116-125, 129 and 130

Appellant notes that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 2-9, 11, 12, 16-18, 56-63, 65, 66, 70-72, 84-93, 97, 98, 100-109, 113, 114, 116-125, 129 and 130 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Examiner therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 2-9, 11, 12, 16-18, 56-63, 65, 66, 70-72, 84-93, 97, 98, 100-109, 113, 114, 116-125, 129 and 130.

i. Dependent Claims 2-7, 56-61, 84-89, 100-105 and 116-121

Appellant further notes, with regard to dependent claims 2-7, 56-61, 84-89, 100-105 and 116-121 that it was stated in the Final Office Action that,

> Soumiya discloses *the information including transmit and receive rates based on a first defined period and a second defined period that is greater than the first defined period and the number of frames and words transmitted and received* (Fig.26 ref. 8~9 is a rate field, Col.26 lines 21-23 the rate changing unit may change the explicit rate that the rate calculating unit calculates at a predetermined ratio and Col.35 lines 21-36 the prolongment of the observation period means that an interval between ER calculation times becomes longer. The capability for calculating the ER in an observation period which is shorter than a specified observation period and Col.7 lines 27-28 "an arrived cell number counter for counting a number of arrived cells in correspondence with an output channel" where calculating the transmission rate also contains information about the amount of frames and words transmitted).

Final Office Action, ¶ 1, pp. 5-6.

Appellant respectfully traverses these rejections, noting that as explained above, the single explicit rate field of the RM cell taught by Soumiya does not represent both the transmit and receive rates of a port receiving a frame to which the rates are added. The explicit rate value certainly does not also simultaneously represent the speed of the port receiving the frame, the port itself, and the transmit and receive rates of the port based on two different time periods. These are all distinct values that are each required by the various dependent claims to be added to the received frame by the claimed switch. The explicit rate field taught by Soumiya is not analogous to any of these values, let alone two or more of them at the same time.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 2-7, 56-61, 84-89, 100-105 and 116-121, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 2-7, 56-61, 84-89, 100-105 and 116-121.

ii. Dependent Claims 8, 62, 90, 106 and 122

Further, with regard to dependent claims 8, 62, 90, 106 and 122, it was stated in the Final Office Action that,

> Cometto further discloses *adding information to the frame when the frame is traveling from the original source to the original destination* (Col.4 lines 46-48 Each intermediate hop in the route toward the destination also inserts time stamp information into the frame).

Final Office Action, ¶ 1, p. 6.

Appellant traverses this rejection, noting that the information required to be added by the claims as it traverses the claimed switch from source to destination is the transmit and receive rates of the port receiving the claimed frame. Thus it is irrelevant whether Cometto teaches inserting a time stamp into the frame, as this is not what the claim requires

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 8, 62, 90, 106

and 122, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 8, 62, 90, 106 and 122.

iii. Dependent Claims 9, 63, 91, 107 and 123

Additionally, with regard to dependent claims 9, 63, 91, 107 and 123, it was stated in the Final Office Action that,

> Cometto discloses *adding information to the frame when the frame is traveling from the original destination to the original source* (Col.7 lines 9-35 A loopback switch may also be a destination switch. Source and destination identifiers in the frame are swapped. Other source and destination information is swapped).

Final Office Action, ¶ 1, p. 7.

Appellant traverses this rejection, noting that the claims require adding the above-described information to the claimed frame as it traverses the claimed switch from source to destination. Thus it is irrelevant whether Cometto teaches swapping identifiers, since what it must teach, and does not teach, is the addition of transmit and receive rates of the port receiving the claimed frame as it passes through the claimed switch from destination to source.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 9, 63, 91, 107 and 123, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 9, 63, 91, 107 and 123.

iv. Dependent Claims 11, 12, 65, 66, 92, 93, 108, 109, 124 and 125

Also, with regard to dependent claims 11, 12, 65, 66, 92, 93, 108, 109, 124 and 125, it was stated in the Final Office Action that,

> Cometto discloses *selecting the port to transmit the frame based on source routing information contained in the frame* (Col.2 lines 7-8 the fibre channel frame identifying the source fibre channel switch and a destination - where the source and destination information is used to route the frame).
>
> Final Office Action, ¶ 1, p. 7.

Appellant respectfully traverse the rejection, noting that although Cometto teaches that, "The processor is operable to provide a fibre channel frame identifying the source fibre channel switch and a destination" (Cometto, col. 2, ll. 6-8), Cometto is silent as to how the frame is routed, i.e., whether normal routing or source routing is used to actually route the received frame. Cometto thus does not teach or suggest a fabric manager that is configured to select a port based on either normal routing rules or source routing information within the received frame, as required by the claims.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 11, 12, 65, 66, 92, 93, 108, 109, 124 and 125, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 11, 12, 65, 66, 92, 93, 108, 109, 124 and 125.

v. Dependent Claims 18, 72, 98, 114 and 130

Further, with regard to dependent claims 18, 72, 98, 114 and 130, it was stated in the Final Office Action that,

> Cometto discloses *determining if the switch was the original source of the frame and if so, to capture the frame and not further transmit the frame* (Col.1 lines 47-50 The fibre channel frame includes a loopback field indicating that the fibre channel frame should be looked back to the source fibre channel switch).
>
> Final Office Action, ¶ 1, p. 8.

Appellant respectfully traverses the rejections, noting that it is irrelevant whether Cometto teaches looping back a frame based on a loopback field. What is required by the claims is that the switch capture and not further transmit the received frame if the switch is the original source of the frame, and this is not taught or suggested by the cited text from Cometto.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 18, 72, 98, 114 and 130, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 18, 72, 98, 114 and 130.

B. The Rejections Under 35 U.S.C. § 103(a) of Dependent Claims 13, 67, 94, 110 and 126 as Unpatentable Over Cometto in view of Soumiya as applied to claims 12, 30, 48 and 66, and Further in View of Wong (U.S. Pat. No. 6,363,077)

Appellants note that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 13, 67, 94, 110 and 126 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above.

Appellants further note, with regard to these dependent claims, that it was stated in the Final Office Action that,

> Wong discloses *using normal routing rules if the source routing information does not indicate a device directly connected to the switch* (Col.9 lines 53-67 If the destination port is a local network port of the current receiving device, only a local transaction must be processed. If the destination port is a network port of a device of the fabric other than the current receiving device, the data packet must be transferred from the current receiving device to the destination device via the data ring by processing).

Final Office Action, ¶ 2, p. 8.

Appellant respectfully traverses the rejections, noting that there is no indication in the cited text that the transfer of the data packet via the ring taught by Wong is performed using source routing. Indeed, Wong does not even mention source routing.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 13, 67, 94, 110 and 126, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 13, 67, 94, 110 and 126.

C. The Rejections Under 35 U.S.C. § 103(a) of Dependent Claims 14, 68, 95, 111 and 127 as Unpatentable Over Cometto in view Soumiya as Applied to Claims 12, 30, 48 and 66, and Further in View of Fredericks (U.S. Pat. No. 6,347,334)

Appellants note that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 14, 68, 95, 111 and 127 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Examiner therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 14, 68, 95, 111 and 127.

D. The Rejections Under 35 U.S.C. § 103(a) of Dependent claims 15, 69, 96, 112 and 128 as unpatentable under 35 U.S.C. § 103(a) over Cometto in view Soumiya as applied to claims 12, 30, 48 and 66, and further in view of Kanetake (U.S. Pat. App. Pub. No. 2003/0137978)

Appellants note that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 15, 69, 96, 112 and 128 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Examiner therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 15, 69, 96, 112 and 128.

E. Conclusion

Appellants believe that no extensions of time or fees are required, beyond those that may otherwise be provided in documents accompanying this response. Nonetheless, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Wong Cabello's Deposit Account No. 50-1922, referencing docket number 112-0124US.

Respectfully submitted,

July 30, 2010

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VIII. CLAIMS APPENDIX

1. (Previously Presented) A Fibre Channel switch, comprising:

a plurality of ports configured to receive and transmit a frame; and

a fabric manager coupled to the plurality of ports to obtain the received frame and to provide a frame to be transmitted, the fabric manager configured to add information to the frame; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of the port receiving the frame; and to provide the frame for transmission;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period.

2. (Original) The switch of claim 1, the information further including the speed of the port receiving the frame and the link cost of a link connected to the transmit port.

3. (Previously Presented) The switch of claim 1, the information further including the port transmitting the frame.

4. (Previously Presented) The switch of claim 3, wherein the transmit and receive rates are based on a first defined time period.

5. (Previously Presented) The switch of claim 4, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

6. (Previously Presented) The switch of claim 5, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

7. (Previously Presented) The switch of claim 4, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

8. (Original) The switch of claim 1, wherein the frame has an original source and an original destination and wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original source to the original destination.

9. (Original) The switch of claim 8, wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original destination to the original source.

10. (Cancelled)

11. (Original) The switch of claim 1, wherein the fabric manager is configured to select the port to transmit the frame based on normal routing rules.

12. (Original) The switch of claim 11, wherein the frame contains source routing information and wherein the fabric manager is configured to select the port to transmit the frame based on the source routing information.

13. (Original) The switch of claim 12, wherein the fabric manager is configured to use normal routing rules if the source routing information does not indicate a device directly connected to the switch.

14. (Previously Presented) The switch of claim 11, wherein the frame is destination addressed to a well known address, and wherein the fabric manager is configured to determine a destination address by retrieving data from the frame payload.

15. (Original) The switch of claim 1, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the fabric manager is configured to transmit the frame over all of such routes.

16. (Previously Presented) The switch of claim 1, wherein the frame is an extended link services frame.

17. (Original) The switch of claim 1, wherein the fabric manager is configured to determine if the switch is the original destination of the frame, and if so, modify the frame to cause it to return to the original source.

18. (Original) The switch of claim 1, wherein the fabric manager is configured to determine if the switch was the original source of the frame, and if so, to capture the frame and not further transmit the frame.

19. – 54. (Cancelled)

55. (Previously Presented) A method performed by a Fibre Channel switch, the method comprising:

receiving a frame;

determining measured transmit and receive rates of the port receiving the frame from the amount of data respectively transmitted and received by the port during a defined time period;

adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

providing the frame to a port for transmission.

56. (Original) The method of claim 55, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

57. (Previously Presented) The method of claim 55, the information further including the port transmitting the frame.

58. (Previously Presented) The method of claim 57, wherein the transmit and receive rates are based on a first defined time period.

59. (Previously Presented) The method of claim 58, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

60. (Previously Presented) The method of claim 59, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

61. (Previously Presented) The method of claim 58, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

62. (Original) The method of claim 55, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

63. (Original) The method of claim 62, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

64. (Cancelled)

65. (Original) The method of claim 55, wherein the port selected to transmit the frame is based on normal routing rules.

66. (Original) The method of claim 65, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

67. (Original) The method of claim 66, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

68. (Previously Presented) The method of claim 65, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

69. (Original) The method of claim 55, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

70. (Previously Presented) The method of claim 55, wherein the frame is an extended link services frame.

71. (Original) The method of claim 55, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

72. (Original) The method of claim 55, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

73.- 82. (Cancelled)

83. (Previously Presented) A switch, comprising:

a fabric manager configured to add information to a frame; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of a port receiving the frame; and to provide the frame for transmission;
wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period.

84. (Previously Presented) The switch of claim 83, the information further including the speed of a port receiving the frame and the link cost of a link connected to a transmit port.

85. (Previously Presented) The switch of claim 83, the information further including the port transmitting the frame.

86. (Previously Presented) The switch of claim 85, wherein the transmit and receive rates are based on a first defined time period.

87. (Previously Presented) The switch of claim 86, the information further including transmit and receive rates of the port receiving the frame and a port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

88. (Previously Presented) The switch of claim 87, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

89. (Previously Presented) The switch of claim 86, the information further including the number of frames transmitted and received by the port receiving the frame and a port transmitting the frame.

90. (Previously Presented) The switch of claim 83, wherein the frame has an original source and an original destination and wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original source to the original destination.

91. (Previously Presented) The switch of claim 90, wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original destination to the original source.

92. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to select a port to transmit the frame based on normal routing rules.

93. (Previously Presented) The switch of claim 92, wherein the frame contains source routing information and wherein the fabric manager is configured to select the port to transmit the frame based on the source routing information.

94. (Previously Presented) The switch of claim 93, wherein the fabric manager is configured to use normal routing rules if the source routing information does not indicate a device directly connected to the switch.

95. (Previously Presented) The switch of claim 92, wherein the frame is destination addressed to a well known address, and wherein the fabric manager is configured to determine a destination address by retrieving data from the frame payload.

96. (Previously Presented) The switch of claim 83, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the fabric manager is configured to transmit the frame over all of such routes.

97. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to determine if the switch is the original destination of the frame, and if so, modify the frame to cause it to return to the original source.

98. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to determine if the switch was the original source of the frame, and if so, to capture the frame and not further transmit the frame.

99. (Previously Presented) A method performed by a switch, the method comprising:

determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period;

adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

providing the frame to a port for transmission.

100. (Previously Presented) The method of claim 99, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

101. (Previously Presented) The method of claim 99, the information further including the port transmitting the frame.

102. (Previously Presented) The method of claim 101, wherein the transmit and receive rates are based on a first defined time period.

103. (Previously Presented) The method of claim 102, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

104. (Previously Presented) The method of claim 103, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

105. (Previously Presented) The method of claim 102, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

106. (Previously Presented) The method of claim 99, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

107. (Previously Presented) The method of claim 106, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

108. (Previously Presented) The method of claim 99, wherein the port selected to transmit the frame is based on normal routing rules.

109. (Previously Presented) The method of claim 108, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

110. (Previously Presented) The method of claim 109, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

111. (Previously Presented) The method of claim 108, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

112. (Previously Presented) The method of claim 99, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

113. (Previously Presented) The method of claim 99, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

114. (Previously Presented) The method of claim 99, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

115. (Previously Presented) A switch, comprising:

means for determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period;

means for adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

means for providing the frame to a port for transmission.

116. (Previously Presented) The switch of claim 115, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

117. (Previously Presented) The switch of claim 115, the information further including the port transmitting the frame.

118. (Previously Presented) The switch of claim 117, wherein the transmit and receive rates are based on a first defined time period.

119. (Previously Presented) The switch of claim 118, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

120. (Previously Presented) The switch of claim 119, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

121. (Previously Presented) The switch of claim 118, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

122. (Previously Presented) The switch of claim 115, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

123. (Previously Presented) The switch of claim 122, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

124. (Previously Presented) The switch of claim 115, wherein the port selected to transmit the frame is based on normal routing rules.

125. (Previously Presented) The switch of claim 124, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

126. (Previously Presented) The switch of claim 125, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

127. (Previously Presented) The switch of claim 124, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

128. (Previously Presented) The switch of claim 115, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

129. (Previously Presented) The switch of claim 115, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

130. (Previously Presented) The switch of claim 115, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.